DOCUMENT RESUME

ED 410 301 TM 027 181


AUTHOR Straus, Murray A.; Hamby, Sherry L.


TITLE Measuring Physical & Psychological Maltreatment of Children with the Conflict Tactics Scales.


SPONS AGENCY New Hampshire Univ., Durham.; National Inst. of Mental Health (DHHS), Bethesda, Md.

PUB DATE Mar 97

NOTE 25p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, March 24-28, 1997).

CONTRACT T32-MH15161

PUB TYPE Information Analyses (070) -- Speeches/Meeting Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS *Child Abuse; Conflict; Data Collection; Emotional Abuse; Family Characteristics; Marriage; *Measurement Techniques; *Parent Child Relationship; Program Evaluation; *Screening Tests; Surveys; Test Construction; Test Format; Test Reliability; *Test Use; Test Validity

IDENTIFIERS *Conflict Tactics Scale; *Spouse Abuse



ABSTRACT

The Conflict Tactics Scales (CTS) are intended to measure use of nonviolent discipline, psychological aggression, and physical assault in parent-child and other family relationships. The latter two scales provide a basis for identifying psychological and physical maltreatment. Two revisions of the CTS became available in 1996. One, the CTS2 is designed to measure relationships between partners in a marital, cohabiting, or dating relationship, while the other, the CTSPC is designed for measuring parent-child relationships. This paper makes available information based on the original CTS and the CTSPC to facilitate understanding and appropriate use. Research results suggest that the internal consistency reliability of the scales are low because parents who engage in one type of maltreatment do not necessarily maltreat the child in other ways. Despite this, when the CTS and CTSPC have been used in epidemiological surveys, they have revealed many more cases of child abuse than have been reported to child protective services. Nevertheless, research suggests that these CTS rates must be regarded as lower bound estimates. Additionally, clinical screening with the scales, while identifying many cases that would not otherwise be known, will still miss many cases. A substantial body of evidence supports the construct validity of these measures, and the brevity and minimal reading level of the scales make them feasible for clinical screening, survey research, tracking progress among families receiving services, and for obtaining data on the effectiveness of prevention and treatment programs. Two appendixes present the original CTS and CTSPC items by scale and subscale and a discussion of prevalence rates and chronicity of maltreatment. (Contains 71 references.) (SLD)



**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED 410 301

# Measuring Physical & Psychological Maltreatment of Children with the Conflict Tactics Scales

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Murray A. Straus
Sherry L. Hamby

TM027181

This paper is prepared for the Annual Meeting of the American Educational Research Association in Chicago, IL



BEST COPY AVAILABLE

In G. Kaufman Kantor & J. L Jasinski. (Eds.)
(In Press) Out of the darkness: contemporary
research perspectives on family violence.
Thousand Oaks, CA: Sage.



# MEASURING PHYSICAL AND PSYCHOLOGICAL MALTREATMENT[1] OF CHILDREN WITH THE CONFLICT TACTICS SCALES

Murray A. Straus and Sherry L. Hamby

The Conflict Tactics Scales or CTS (Straus, 1979a; 1990b) are intended to measure use of Nonviolent Discipline (previously called Reasoning), Psychological Aggression, and Physical Assault in parent-child and other family relationships. The Psychological Aggression and Physical Assault scales provide a basis for identifying psychological and physical maltreatment. The purpose of this chapter is to facilitate the use of the CTS by presenting information based on 20 years of experience and over 100 papers which have used the CTS to measure child maltreatment.

Two revisions of the CTS became available in 1996. One of them, the CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), is designed to measure relationships between partners in a marital, cohabiting, or dating relationship. The second new version is designed for measuring parent-child relationships and is called the CTSPC. In this chapter "CTS" will be used to identify material that applies to both the original CTSPC and the original CTS (called CTS1 from here on). CTSPC and CTS1 will be used for material that applies only to those specific instruments.

The CTSPC has so far been used in only one empirical study. However, the considerable body of experience with the CTS1 is likely to be applicable to the CTSPC because the CTSPC is based on the same theoretical and measurement strategy as the CTS1. This chapter therefore makes available information based on both the CTS1 and the CTSPC to facilitate understanding and appropriate use of these instruments. The specific objectives of the chapter are to provide the following: (1) Examples of applications of the CTS to research on child maltreatment that illustrate potential uses. (2) The theoretical rationale underlying both the CTS and the CTSPC. (3) Description of the sub-scales and scoring methods to measure different levels of maltreatment. (4) Data on validity and reliability. (5) An assessment of the CTS, both in absolute terms and relative to other measures of child maltreatment.

---

This research is a project of the Family Violence Research Program of the Family Research Laboratory, University of New Hampshire, Durham, NH 03824. A publications list will be sent on request. We are indebted to David Finkelhor, David Moore, Christine Smith and Barbara Wauchope for valuable comments and suggestions; to Dianne Cyr Carmody and Barbara A. Wauchope for locating research using the CTS to measure child maltreatment. The research was supported by the University of New Hampshire and by National Institute of Mental Health grant T32 MH15161 for "Family Violence Research Training.

## THE CTS AND OTHER APPROACHES TO MEASURING MALTREATMENT

Standardized self-report methods for measuring child maltreatment, such as the CTS can, for some purposes, be a useful alternative to the present dependence on data describing cases reported to Child Protective Services (CPS). Because of this dependance on CPS cases, a large proportion of research on physical maltreatment of children does not directly measure maltreatment. Instead, as Knudsen (1988) and Fink and McCloskey (1990) note, these studies depend on the judgments of child protection workers. In principle, a careful clinical evaluation may provide the best data on child maltreatment. In practice, there are many problems with such data. The definitions of maltreatment used by agencies are ambiguous and subject to various interpretations (see below and Knudsen, 1988). Moreover, as Knudsen shows, these definitions tend to change over time. Even when the formal definitions remain constant, the staff changes and policies for interpreting the definitions change. To compound all of this, only a small proportion of CPS staff have a degree in a clinically relevant field. Moreover, they are burdened with case loads which almost preclude the type of in-depth assessment which, in principle, would provide the best data. There are also many studies comparing clinical judgments with assessments based on quantitative instruments such as the CTS. To the surprise and chagrin of most of the authors, these studies have generally found the quantitative assessment to be more accurate both in diagnosis and prognosis (Dawes, Faust, & Meehl, 1989).

The parent-child part of the CTS1 (see Appendix 1 and Straus, 1996) can be administered in about three minutes, and the equivalent parts of the CTSPC (in Straus, Hamby, Finkelhor, Moore, & Runyan, 1996) in about five minutes. Both can administered by interviewers who are not clinically trained or as a self-administered questionnaire. Despite its brevity, the CTS provides data on the prevalence and chronicity of physical and psychological maltreatment. It can be used in house-to-house random sample epidemiological studies, for screening and preliminary diagnosis in clinical settings, and to evaluate the extent to which a treatment or prevention program has reduced the rate of child maltreatment.

## RESEARCH ON CHILD MALTREATMENT USING THE CTS

Since the first use of the CTS in the early 1970's (Straus, 1973), it has become the most widely used instrument for research on spouse abuse (Morash, 1987). Although fewer studies have used the CTS to measure child maltreatment, the contributions of these studies to knowledge of child maltreatment includes:

* National rates of physical maltreatment (Gelles, 1978; Straus, 1990a; Straus, Gelles, & Steinmetz, 1980; Wauchope & Straus, 1990)

* Trends and cross-national comparison of the incidence of maltreatment (Gelles & Edfeldt, 1986; Hampton, Gelles, & Harrop, 1989; Straus & Gelles, 1986; Straus & Kaufman Kantor, 1995).

* Risk factors for physical maltreatment (e.g., Cantrell, Carrico, Franklin, & Grubb, 1990; Eblen, 1987; Giles-Sims, 1985; Jouriles & Norwood, 1995; Meredith, Abbott, & Adams, 1986; Rollins & Ohenaba-Sakyi, 1990; Straus, 1979b; Straus & Kaufman Kantor, 1987).

* The effects of physical maltreatment (Dembo, Williams, Berry, Wish, LaVoie, Getreu, Schmeidler, & Washburn, 1989; Downs, Miller, & Panek, 1993; Gelles & Straus, 1987; Hotaling, Straus, & Lincoln, 1989; Jouriles & Norwood, 1995; O'Keefe, 1994),

* Effects of psychological maltreatment on children (Vissing, Straus, Gelles, & Harrop, 1991).

## DESCRIPTION AND THEORETICAL RATIONALE OF THE CTS

### Description

The CTS is intended to measure the tactics or behaviors used by parents when the there is conflict or hostility toward a child. It is not intended to measure the existence of or the amount of conflict or hostility, although one can assume that conflict or hostility exist when there is psychological or physical aggression against (see Straus, 1979a for the theoretical distinctions between conflict, hostility, and conflict tactics) a child.

The CTS begins with the statement "Parents and children use many different ways of trying to settle differences between them. I'm going to read a list of some things that you and ...(name of child)... might have done when you had a problem with this child. I would like you to tell me how often you did it with ... (him/her) ... in the past year."

Following this is a list that begins with the items from the Nonviolent Discipline scale, such as "Discussed an issue calmly;" and then goes on to the items in the Psychological Aggression scale, such as "Insulted or swore at him/her;" and ends with the Physical Assault or "violence" items, such as "Slapped or spanked him/her" and "Kicked, bit, or hit with fist."

There have been four versions of the CTS (see the test manual, Straus, 1996). Since there is rarely a need to use previous versions, this chapter refers entirely to the most recent versions. All versions of the CTS can be used in face-to-face telephone interviews, or with minor alterations, as a self-administered questionnaire.

### Rationale For Focus On Acts Of Maltreatment

The CTS was designed on the premise that physical and verbal attacks on children are inherently acts of maltreatment, regardless of whether an injury occurs. For this reason, with certain exceptions, the CTS scales are identified in this chapter as measures of maltreatment. Of course, information on injuries resulting from acts of maltreatment is also important, and for some purposes, essential. Nevertheless, for the

reasons given below, it is important to measure acts of maltreatment and injury separately.

The conceptual issue that is most relevant for understanding the CTS is the difference between a measure of maltreatment based on an injury, as compared to a measured based on acts of maltreatment. Legal and administrative definitions recognize both aspects but put primary reliance on injury. For example, the definition in the federal child abuse act of 1974 (Public Law 93-247) begins "The physical or mental injury . . ." (emphasis added), and then adds " . . . or maltreatment [that threatens a child's health or welfare]." Similarly, the National Committee for the Prevention of Child Abuse (1985) defines physical abuse as "non-accidental injury" (emphasis added). However, sexual abuse is always defined in terms of acts, regardless of whether there is any evidence of injury. The CTS applies this principle to all types of maltreatment for the reasons listed below.

Consistent With Legal Usage. It is not generally realized that the law of assault in respect to adults makes an assault a crime regardless of whether it results in injury. As Marcus (1983) puts it: "Physical contact is not an element of the crime...[assault]." Or as the Uniform Crime Reports puts it: "Attempts are included [in the tabulation of aggravated assault] because it is not necessary that an injury result..." (U.S. Department of Justice, FBI, 1985:21). However, in the United States and most other countries, the assault statutes contain an exception from prosecution for parents who assault a child for purposes of discipline and control. The severity of the assault that parents are permitted varies tremendously between societies and between historical eras (Korbin, 1987; Radbill, 1987), and between groups within a society (Gelles and Straus, 1979; Giovannoni & Becerra, 1979). At some point, however, all societies and groups draw a line.

Injury And Assault Loosely Linked. A second reason for making acts the criterion for child maltreatment is that the connection between assaults and injury is far from direct. In most instances, a child who is kicked or thrown against a wall will not be injured enough to require medical care. Only a small proportion of confirmed cases of physical abuse involve injury that requires medical care (Garbarino, 1986). Similarly, only a small proportion of battered women suffer injuries that need medical care (Stets and Straus, 1990). Conversely, a child who is "only" slapped might fall and hit his or her head on an object and be seriously injured. This chance aspect of injury may be one of the reasons why the legal definition of assault is based on the act carried out rather than whether an injury was produced.

More Realistic Estimate Of Prevalence. Because most instance of physical maltreatment do not result in an injury which needs medical attention, statistics based on injury underestimate the extent of child maltreatment by a huge amount. Consequently, injury based statistics can give a misleading picture of the need for treatment and prevention programs.

Permits Investigation Of The Link Between Maltreatment And Injury. By measuring assaultive acts (both physical and psychological) separately from injuries, it is possible to investigate such issues as the circumstances under which injury does and does not result, and the type of acts which are most likely to result in injury. For example, Vissing and associates (1991) found that verbal aggression by parents is associated with a higher rate of psychological injury than is severe physical aggression. If the measure of maltreatment had required an injury, that issue could not have been investigated because all children in both groups would have been injured.

Ignores Psychological Consequences of Physical Assaults. Another reason for the focus on acts is that some of the most serious consequences of physical maltreatment are likely to be psychological, and therefore not easily observed. For children this can include low self-esteem, aggressiveness, and delinquency (Hotaling, Straus & Lincoln, 1989).

Reflects Humane Values. A final reason for focusing on acts, despite the great importance of injuries, is a moral or humane values criterion. It should not be necessary for a child to be injured to classify certain parental behavior as abusive. From the perspective of this value orientation, punching or kicking a child is inherently wrong, even though no injury occurs.

Despite these arguments, the distinction between acts and injuries is not that clear. In the long run, it is doubtful if a society would define an act as abusive if it did not tend to result in injury. In addition, for certain immediate purposes, such as estimating the need for medical or psychological services, data on injuries is the most appropriate measure. It is also important to recognize that use of acts of maltreatment, rather than injuries, can cause misunderstanding by those who think of child abuse as indicating an injured child.

## THE CTS PHYSICAL AND PSYCHOLOGICAL MALTREATMENT MEASURES

### Prevalence and Chronicity Measures

Each of the CTS scales and subscales can be used to estimate prevalence rates, such as a rate per 1,000 children, or a percentage, i.e. a rate per 100 children. The scales can also be used to measure the chronicity of maltreatment, i.e., among those known to have physically or psychologically mistreated a child, how often it occurred. Finally, the CTS scales can be used to classify cases into types, such as No Violence, Minor Assaults Only (i.e. ordinary corporal punishment, but nothing more severe), Severe Assault and Very Severe Assault.

### Criteria For Maltreatment

Normative Criteria. As suggested earlier, the acts which constitute maltreatment are, to a considerable extent, a matter of social norms and administrative practice. Spanking or slapping a child, or even hitting a child with an object such as stick, hair brush, or belt,

is not maltreatment provided no injury occurs, according to either the legal or informal norms of American society, although it is in Sweden and several other countries (Straus, 1994). The CTS attempts to take such normative factors into consideration by giving users a choice of measures which draw the line between discipline and maltreatment at different points.

Severity And Chronicity Criteria. Operationalization of maltreatment is further complicated by the need to consider the chronicity of assaults, or combinations of severity and chronicity. For physical maltreatment, the line has usually been drawn on the basis of the severity of the assault. For psychological maltreatment, the line has been drawn on the basis of chronicity. However, research is needed on the efficacy of these and alternative procedures, including combinations of chronicity and severity (as in DSM IV).

Physical Maltreatment Measures

Several physical maltreatment subscales can be constructed from the CTS Physical Assault items.

Very Severe Assault (also called Severe Physical Abuse). This subscale consists of assaultive acts such as kicking, punching, burning, and attacks with weapons that are almost universally regarded as indicators of "abuse." The Very Severe Assault subscale is probably the closest approximation to the behavior which is likely to produce a report of abuse to Child Protective Service agencies in each of the states.

Severe Assault (also called Physical Abuse). Although the Very Severe Assault subscale may be the most suitable measure for purposes of estimating the number of children in need of official intervention, it underestimates the number of children who are being severely assaulted because it excludes the item on hitting a child with an object. This item was omitted from the Severe Assault subscale because the object is often a traditionally established object such as a hair brush or belt. Although the percentage of the population who follow that tradition is declining, it is still legally permissible (see for example NH vs Johnson, 1992). However, if an adult were to be hit with a hair brush or belt, it would be considered a serious assault, and one can argue that the same standard should apply to children. The Severe Assault subscale does that. The rate of physically maltreated children, when measured by the CTS1 Severe Assault subscale, is almost five times greater than when the Very Severe Assault Subscale because the Very Severe Assault subscale includes only attacks that are more dangerous than hitting with an object.

Frequency Times Severity Weighted (FS) Scale. The FS scale method of scoring the physical assault items takes into account both the chronicity and the severity of assaults on children by their parents. Severity (in the sense of injury producing potential) is indicated by weighing the CTS1 items as follows: Items K, L, and M (the minor assault acts) are unweighted, i.e. they have a weight of 1; N. Kick, bit, punch = 2; O. Hit with

object = 3; P. Beat up; Q. Burned, scalded = 5; R. Threatened with a knife or gun = 6; S. Used knife or gun = 8.

The FS scale is computed by multiplying the severity weight for each item by the frequency ("chronicity") with which it occurred, and summing the products. This procedure assigns a much higher score to children who are attacked with a weapon than to those who are slapped or spanked, and at the same time allows for the fact that chronic slapping or spanking is abusive.

Since the FS scale is a continuous variable, it would be helpful to establish a threshold to demarcate a level of assault that is considered as requiring intervention. There is an obvious need for research on this issue. One approach would be a logistic regression analysis using injury as the dependent variable. Such an analysis could determine if there is a threshold beyond which the probability of injury increases sharply.

Parental Assault Types. This procedure uses the physical assault items to classify parents into one of the following four types: (1) Non-Violent: Parents did not use of any of the CTS assault items. (2) Minor Assaults: Parents whose physical assaults are confined to item in the Minor Assault Subscale, roughly corresponding to legal corporal punishment. (3) Severe Assault: parents who hit the child with an object (CTS1 item O) but did not use any of the acts judged to be more dangerous (CTS1 items N, P, Q, R, S). (4) Very Severe Assault: CTS1 items N, P, Q, R, or S. A similar typology can be constructed using the CTSPC physical assault items.

Severity And Chronicity. The above procedures, with the exception of the Frequency Times Severity scale, do not allow for the fact that chronic use of spanking and slapping is a form of physical abuse even though it may pose little danger of injury. Hotaling, Straus and Lincoln (1989) therefore used two criteria to identify cases of child maltreatment: either the parent engaged in one or more of the acts in the Severe Assault subscale or they engaged in a very high frequency (the 90th percentile) of minor assaults such as slapping or spanking.

Corporal punishment. The Minor Assault subscale has been used to measure legally permissible corporal punishment (Straus, 1994). However, there is wide disagreement about the boundary of legitimate corporal punishment. One of the items in dispute is hitting with an object such as a hair brush or belt. There is also disagreement about including throwing something at the child.

Just as certain types of objects are traditionally legitimate for hitting a child, there are also types of objects which can be thrown. For example, one can throw a bucket of water, but not a pot of hot water. In general, American cultural norms permit parents to throw objects which carry a small risk of injury.

If both hitting with an object and throwing things are culturally permissible, why was hitting with an object included in the Severe Assault (physical abuse) subscale and throwing something included in the Minor Assault (corporal punishment) subscale? The

reason is our judgement that hitting a child with a stick, belt, hairbrush, etc. carries a higher risk of injury to the child than does throwing things at a child because the object thrown is typically something a low risk of injury.

There might also be objection to including pushing, shoving, and grabbing as indicators of corporal punishment. .They are included because these acts are among the most frequently used methods of corporal punishment. But this is often not realized by parents who grab and shove because it is usually embedded in getting a child to go somewhere or come from somewhere. An example is a child who will not get out of the car, and is grabbed roughly by the angry parent and jerked out of the car with far more force than is necessary. The rough handling part of grabbing and moving the child is a type of corporal punishment, and, as noted above, a type which is believed to be extremely frequent.

The most important limitation of the CTS as a measure of corporal punishment, however, is that the CTS asks about what happened in the previous 12 months. Spanking, hand slapping, and other modes of corporal punishment, however, occur on average two or three times a week with pre-school children (Straus, 1994). Corporal punishment is such an everyday, taken-for-granted part of child rearing that parents do not realize how often they have done it during the previous 12 months. The rate based on asking about the previous week is several times greater than asking about what happened in the last year, but is also an underestimate. For this reason the CTSPC includes supplemental questions about corporal punishment in the previous week.

Psychological Maltreatment Measures

Conceptualization. The Psychological Aggression scale of the CTS measures verbal and symbolic communications that are intended to cause psychological pain or fear on the part of the child. The scale covers only a limited aspect of the many forms of maltreatment to which labels such as psychological maltreatment has been applied (see Vissing et al. (1991) for a conceptual analysis). Psychological aggression as just defined may be inflicted as a means to some other end, e.g. a parent who attempts to end some objectionable behavior by exclaiming "Stop it, you dummy." This is what Gelles and Straus (1979) identify as "instrumental" aggression. Or the psychological aggression may be an end in itself, e.g. a parent is angry with a child and expresses the anger by a deprecating remark such as "you're stupid". Gelles and Straus label this "expressive" aggression.

Psychological Aggression Scale. As in the case of physical assault, contemporary social norms seem to tolerate a certain amount of psychological aggression by parents. Just as an occasional spanking does not constitute "physical maltreatment," occasional psychological aggression does not constitute "psychological maltreatment." It difficult to know at what point psychological aggression by parents becomes psychological maltreatment according to contemporary American norms, just as it is difficult to draw the line between corporal punishment and physical abuse. In the case physical assaults, the CTS relies mainly on the dangerousness of the assault because there is agreement

that the items in the Severe Assault subscale such as kicking a child, are more dangerous than slapping a child's hand. However, there is no similar consensus on which psychologically aggressive acts are more dangerous. Consequently, we used the chronicity of psychological aggression as the criterion. In the absence of established standards, the results of applying three thresholds to the parents in the 1985 National Family Violence Survey are presented below.

| Annual Chronicity Threshold | Rate/ 1000 | Estimated No. of Children |
|---|---|---|
| 10 or more instances | 257 | 16,190,000 |
| 20 or more instances | 138 | 870,000 |
| 25 or more instances | 113 | 712,000 |

Even using 25 or more instances of psychological aggression as the criterion produces a rate of psychological maltreatment that is 113 times greater than the rate of 1 per 1,000 confirmed cases of emotional maltreatment reported to state Child Protective Services (National Center On Child Abuse and Neglect, 1996).

## RELIABILITY, VALIDITY, AND NORMS

### Reliability

Internal consistency reliability, as measured by coefficient alpha, of the CTS1 Physical Assault scale has ranged from .42 to .71 with an average of .58 across eight samples or subsamples (Amato, 1991; Kaufman Kantor, Jasinski, & Aldarondo, 1994; Straus & Gelles, 1986; Straus, Gelles, & Steinmetz, 1980; Straus, Hamby, Finkelhor, Moore, & Runyan, 1996). The internal consistency of the psychological aggression scale has ranged from .62 to .77 with an average of .68 (Kaufman Kantor, Jasinski, & Aldarondo, 1994; Straus & Gelles, 1986; Straus, Gelles, & Steinmetz, 1980; Straus, Hamby, Finkelhor, Moore, & Runyan. 1996).

Amato (1991) found a test-retest reliability for reports of physical assault (over a 14-week period) of .80. While this is a good test-retest reliability the internal consistency of these scales is lower than would be desired. It indicates that parents who engage in one of the acts of maltreatment in each scale typically do not engage in the others. The discussion section of the paper on the CTSPC ( Straus, Hamby, Finkelhor, Moore, & Runyan, 1996) analyzes possible reasons for the low reliability. Despite the lack of internal consistency reliability, there is considerable evidence indicating the validity of the CTS.

### Validity

Interfamily Agreement. Some studies have compared parents' and children's responses to the Physical Assault scale. McCloskey and Figueredo (1995) found that mother's and child's reports of father's aggressive behavior were significantly related.

Jouriles and Norwood (1995) reported correlations ranging from .30 to .46 for mother's and child's reports of both maternal and paternal aggression. Richters and Martinez (1993) report a high correlation among violent families (.67) between parents' reports of spousal assault (CTS) and child's report of witnessing assault in the family. Kruttschnitt and Dornfield (1992) reported high agreement between mothers and children for aggression towards children (average 87%), but the high agreement was largely due to agreement on rates of nonoccurrence. Of the violent events that were reported by at least 5 mothers, the average kappa was .42. Other studies have included two or more informants (e.g., Kolko, Kazdin, Thomas, & Day, 1993; O'Keefe, 1994) but have not reported intrafamily agreement. More research in this area is needed, especially for samples that include high enough rates of assault to calculate stable estimates of the agreement for the occurrence of assault.

Non-Zero Prevalence Rates. Contrary to concerns that a random sample of parents interviewed by a stranger would not divulge abusive behavior, the rates of maltreatment revealed by the CTS and the CTSPC (reported in Straus & Gelles, 1988, 1990 and in Straus, Hamby, Finkelhor, Moore, & Runyan, 1996) are many times higher than the rate for abuse cases known to Child Protective Services. This is consistent with the long standing belief of case workers that there are many times more cases than are referred to them.

Another bit of evidence confirming the ability of the CTS to obtain data on assault is the consistency of the National Family Violence Survey rates with the rate obtained by the Randomized Response Technique, which is widely assumed to be able to elicit more complete reporting of deviant behavior. Zdep and Rhodes (1976) used this technique, which guarantees the anonymity of the respondent, to estimate the prevalence of child maltreatment. Their estimate of 15% is almost identical to the rate obtained that year by the National Family Violence Survey using the CTS.

Not Confounded With Social Desirability Response Sets. A major threat to the validity of all self-report data is confounding with "social desirability response sets." It is almost certain that many parents who respond to the CTS questions do not reveal incidents which actually occurred. Since this is the case, differences in the maltreatment rate between groups of respondents, such as such as those with low and high education, may reflect a greater concern of one group to present themselves in a favorable light. Several studies have investigated this possibility for reports of assault on a spouse or dating partner (e.g., Arias & Beach, 1987; Saunders, 1986; Saunders & Hanusa, 1986). Surprisingly, all found weak or non-significant correlations with standard measures of social desirability response set. A meta-analytic review of these studies (Sugarman & Hotaling, in press) found an average effect of -.18. Some studies have used a response set score as a statistical control, but it did not change the findings. While social desirability seems to have been measured in only one child maltreatment research, (Newberger & White, 1987) the findings are similar to those just summarized for spouse maltreatment.

"Lower Bound" Estimates. Despite the ability of the CTS to elicit information from parents on physical maltreatment, and despite the evidence that the CTS is not confounded with social desirability response sets, it is best to regard the results of using the CTS as "lower bound estimates." This is because, even with the best designed instrument, not every parent will be willing or able to divulge such information. Consequently, although the CTS rates of physical maltreatment are several times higher than the rate based on cases known to child protective services, the actual prevalence rate is probably even higher.

Construct Validity. The construct validity of the CTS can be assessed by the degree to which use of the CTS results in findings which are consistent with theoretical or empirical propositions about the aspect of maltreatment which the instrument purports to measure. Some examples of such findings are listed below.

* There is a broad consensus that stress increases the risk of child maltreatment, and the results of two studies using the CTS are consistent with that theory (Eblen, 1987; Straus & Kaufman Kantor, 1987).

* Studies using the CTS show that parents who were victims of assault as children have a higher rate of maltreatment toward their own children (Straus, 1990a; Straus, Gelles & Steinmetz, 1980); these findings are consistent with social learning theory and with many empirical studies (see meta-analysis by Hotaling & Sugarman, 1986).

* Children who were victims of severe physical assault have much higher rates of psychological problems, vandalism, theft, and drug use (Dembo et al., 1989; Downs, Miller, & Panek, 1993; Gelles & Straus, 1988, 1990; Hotaling, Straus, & Lincoln, 1989; Jouriles & Norwood, 1995; O'Keefe, 1994) .

* Vissing et al. (1991) found that the more psychological aggression a child was exposed to, the higher the probability of delinquency, excessive aggression, and inter-personal problems.

All of the above findings are consistent with "strong" theories and previous empirical findings and therefore contribute to confidence in the construct validity of the CTS.

Norms

Normative tables for the CTS1 based on a 1985 nationally representative sample of 3,232 children are given in the appendix to Straus and Gelles (1990). Normative tables for the CTSPC based on a 1995 nationally representative sample are given in the Manual for the CTS (Straus, 1996).

## EVALUATION OF THE CTS AS A MEASURE OF CHILD MALTREATMENT

Limitations Of The CTS For Measuring Child Maltreatment

Some of the shortcomings of the CTS as a measure of child maltreatment reflect the fact that it was originally developed for use in research on physical abuse of spouses and then modified slightly to apply to child maltreatment. The CTSPC deals with some of these shortcomings, but others remain.

1. Alternative Items and Scoring for Use With Infants. Many of the items are not well suited to infants. For example, shaking a child of six is appropriately labeled as minor assault, but can be life threatening for an infant. The CTSPC includes an item on shaking, and provides for differential scoring according to the age of the child.

2. Some of the CTS1 Reasoning scale items are not appropriate for use with young children. The Reasoning scale has been replaced by the Nonviolent Discipline scale in the CTSPC.

3. The referent for CTS1 item O is ambiguous. This item, "Hit or tried to hit with something" does not indicate the type of object. The CTSPC omits this item

4. One Year Referent Period. The CTS asks respondents to recall what happened in the past year -- something that is often unrealistic. The one year referent period is used because it seemed to pose lesser of two problems: The problem of accuracy of recall, and the problem of low rates and even more highly skewed distributions if a shorter referent period is used.

The one year referent period is primarily a means of uncovering more cases of maltreatment than might occur with a shorter period, such as a month. A one month referent period will omit cases where maltreatment did not occur in the previous months, but had occurred in a prior month that year. However, this is partly counteracted because, with a one year referent period, incidents that occurred more than a month previously may be forgotten. Using a one month referent period and multiplying by 12 to produce annual prevalence rates might yield a much higher rate. However, while that may be correct for producing aggregate estimates for a population, a one month referent period would be less satisfactory as a screening tool because it is likely to omit many cases. Empirical research is needed to learn the consequences of using different referent periods.

In the case of corporal punishment of children, for the reasons given previously, even a one month recall period is unrealistic. Consequently, the CTSPC includes supplemental questions on corporal punishment and other disciplinary practices in the past week.

5. Falsification of Responses. Prevalence rates based on the CTS must be considered as "lower bound estimates." When the CTS is used for clinical screening the problem is more serious because lying is a characteristic of one type of abuser -- those with antisocial personalities (cf. Holtzworth-Munroe & Stuart, 1994). Thus, the CTS is likely to miss one of the most dangerous types of parents. Repeated in-depth

interviews, or "disguised" measures (Straus, 1964) probably have the best chance with this type of parent.

An additional possibility for detecting refusals and 'faking good' is to examine the responses on the Reasoning and Psychological Aggression scales. Richters and Martinez (1993) reported that a small number of their respondents failed to endorse any item--even "discuss calmly." They concluded that these individuals had not accurately completed the questionnaire. This conclusion is supported by the fact that virtually all individuals receive non-zero scores on Reasoning in the major studies that have been conducted. Very few, in fact, score zero even on Psychological Aggression and we would also recommend that such a protocol be interpreted cautiously.

6. Low Internal Consistency Reliability. The CTS was designed on the assumption that it is not practical to include a truly comprehensive list of abusive acts, and that a sample of abusive acts would be sufficient because abusive parents seldom limit their attacks to just one or two types of attack. Thus, parents who punch a child are also likely to engage in other types of severe attack. However, the low reliability coefficients reported earlier, and the even lower coefficients for the subscales reported in Straus, Hamby, Finkelhor, Moore, & Runyan (1996) indicate very low correlations between items. For this reason, additional items increase the number of cases detected (Straus, 1990b). Consequently, the CTSPC has been expanded from 18 to 22 items.

7. No Empirical Data on Chronicity Thresholds For Psychological Maltreatment. The thresholds for identifying cases of psychological maltreatment are not based on empirical evidence. Vissing and associates (1991) found a linear increase in the probability of a highly aggressive child with each increase in instances of psychological aggression, whereas for delinquency, there was a non-linear relation: a rapid increase in delinquency did not begin until about 20 instances of psychological aggression. These findings suggest that it will not be easy to determine a specific threshold because adverse effects begin at different points depending on the outcome variable. Research on appropriate thresholds is needed.

8. Insufficient Range Of Severity In Psychological Aggression Items. The psychological aggression items in the CTS have not been classified into more and less severe on the basis of their injury-producing potential. The CTSPC includes items that are intended to differ enough in severity to distinguish between minor and severe acts of psychological aggression.

## Alternative Measures

The problems just summarized suggest that, despite the evidence of construct validity presented earlier, there are grounds for caution. Consequently, a decision concerning whether to use the CTS will depend on the alternatives. This section therefore reviews some of the other methods which have been used in research on physical abuse of children:

Officially Reported Cases. Annual statistics are compiled on the number of child abuse cases reported to the Child Protective Services under the mandatory reporting laws which are in effect in all the states (National Center On Child Abuse and Neglect, 1996). These are the most widely known and widely accepted statistics on child maltreatment in the United States. However, it is generally acknowledged that there are many more maltreated children than are officially reported. Thus, the 1984 rate for physical abuse cases known to child protective services was estimated by Straus and Gelles (1988) to be 6.8 per thousand children. By contrast, the CTS rate using Very Severe Assault as the criterion is 23 per thousand, and 110 per thousand when using Severe Assault. Thus the CTS rate is from 3.4 to 16 times greater than the officially reported rate. Similar results have been found with the CTSPC (Straus, Hamby, Finkelhor, Moore, & Runyan, 1996).

National Incidence Studies. These studies tabulated all cases of child abuse known to service providers in a sample of 26 counties (National Center on Child Abuse and Neglect, 1981; Sedlak & Broadhurst, 1996). The procedure went beyond the official reporting system described above by also collecting data on cases known to personnel of community institutions (schools, hospitals, police, courts), regardless of whether the cases had been officially reported. The 1980 study found a physical abuse rate of 3.4 per thousand children. This is 26% higher than the rate of officially reported cases of physical abuse in 1980. However, since the CTS1 rate was more than 300% greater than the CPS rate, it suggests that the most cases of maltreatment are not known to any service provider. The Third National Incidence Study (Sedlak & Broadhurst, 1996). found a rate of 9.1 per thousand, but even this much higher rate is only about a fifth of the Severe Assault rate of 49 per thousand based on a 1995 national survey of parents using the CTSPC (Straus, Hamby, Finkelhor, Moore, & Runyan, 1996).

Intervention Rates and Prevalence Rates. The differences between the rates produced by the CTS and those produced by the two methods just described can be interpreted as showing that the latter methods result in a severe underestimate of the number of physically abused children in the United States. Although this may be correct, it is more useful to think of the CPS rate and the CTS rate as measures of different phenomena. The CPS rate is best thought of as an "intervention" rate because it consists entirely of cases in which there has been an intervention in the form of a report of abuse to CPS. The CTS rate is best thought of as an approximation to a period-specific prevalence rate. Intervention rates and prevalence rates are so different that, under some circumstances, they can have a negative correlation. Thus, Straus and Gelles argue that the year-by-year steady increase in the intervention rate (CPS reports) between 1975 and 1985 is one of the reasons why the prevalence rate (as measured by the CTS) decreased during this period, and have continued to decrease (Straus & Kaufman Kantor, 1995),

Prediction Instruments. There instruments are intended to identify parents who have a higher than normal risk of abusing their children. The Adult-Adolescent Parenting Inventory (ASPI) of Bavoleck (1984) focuses on the behavior of the parent toward the child and includes sub-scales for use of corporal punishment, inappropriate

expectations, lack of empathy, and role reversal. The Child Abuse Potential Inventory (CAP) of Milner (1986) on the other hand focuses on the attitudes and personality of the parent and includes sub-scales for Distress, Rigidity, Unhappiness, Problems with child and self, Problems with family, and Problems from others. Other instruments are reviewed in Schneider, Helfer, and Hoffmeister (1980).

Despite occasional use of terminology which might suggest otherwise, these instruments do not measure the occurrence of acts of physical abuse. For example, Milner's CAP Inventory results in an overall measure called the "Abuse Scale." However, none of the items refer to physical assaults, nor should they. This is because the instrument is a tool for prevention work, and is intended to identify parents at risk of being abusive before abuse actually occurs.

There is a certain irony in the fact that these instruments were developed for use in programs designed to provide services which can aid high risk parents avoid having the risk become a reality. The irony is that these instruments are more appropriate for research than for prevention programs. The problem is not deficiencies in the instruments per se. The CAP Inventory, for example, exemplifies sound psychometric techniques, including validity studies presented with commendable clarity in the test manual. The problem is the high incidence of "false positives" inherent in predicting any phenomenon with a low incidence rate (Light, 1973). For example, Milner administered the CAP Inventory to abusing parents and to a comparison group. The discriminant analysis correctly classified 93% of parents. Assuming 93% accuracy and an incidence of clinically identifiable child abuse of 2%, application of the CAP Inventory to all parents in a community would correctly identify two out of every 100 parents as being at high risk of being abusive and incorrectly identify seven. Thus, 78% of the cases assessed would be falsely labeled (cf. Light 1973, p.571 for estimation procedures).

Medical Diagnosis. The paper of Kempe, Silverman, Steele, Droegemueller, & Silver (1962), which helped mobilize medical and public attention on child abuse, described the use of medical diagnostic techniques to distinguish between children who are the victims of accidental injury and those who are the victims of inflicted injuries. Studies of children admitted to emergency departments of urban hospitals for accidental injury suggest that about 10% of such children are abuse victims. Other studies (reviewed in Pless, Sibald, Smith, & Russell, 1987) have produced far lower figures. Regardless of which rate is correct, protocols for evaluating children admitted to emergency rooms (such as the SCAN Sheet described in Pless et al, 1987) are extremely important because they can identify children who are in the greatest need for protective services.

Even if all hospitals were to use a child abuse detection protocol, it would still leave undetected more than 95% of physically abused children. This is because, as noted in the discussion of why the CTS is based on assaults rather than injuries, less than five percent of child abuse cases known to Child Protective Services involve an injury that is serious enough to need hospital care. Most physically maltreated children (in contrast to the cases which make front page headlines) involve repeated severe beatings, but not

injuries. These children and parents are in dire need of assistance, but not medical assistance. Consequently, hospital-based detection methods serve a different purpose than self-report instruments such as the CTS.

## CONCLUSIONS

This chapter describes and evaluates the Conflict Tactics Scales (CTS) and its revision, the CTSPC, as a means of identifying cases of physical and psychological maltreatment of children. The internal consistency reliability of the CTS is low because parents who engage in one type of maltreatment do not necessarily mistreat the child in other ways. Despite this, when the CTS has been used in epideimiologcial surveys, it reveals many times more cases than have been reported to Child Protective Services. Nevertheless, rates based on the CTS must be regarded as lower bound estimates. Similarly, clinical screening with the CTS, while identifying many cases that would not otherwise be known, will still miss a large number of cases. Research on the etiology and consequences of maltreatment has provided a substantial body of evidence indicating construct validity. The brevity and minimal reading level of the CTS make it feasible for clinical screening, for epidemiological survey research, for tracking progress among families receiving services, and for obtaining data on the effectiveness prevention and treatment programs.

## Appendix 1. CTS1 AND CTSPC ITEMS ARRANGED BY SCALE AND SUBSCALE

### CTS1

Reasoning

A. Discussed an issue calmly with (child name)
B. Got information to back up your side of things
C. Brought in, or tried to bring in someone to help settle things

Psychological Aggression

D. Insulted or swore at him/her
E. Sulked or refused to talk about an issue
F. Stomped out of the room or house or yard
G. Cried (this item is not scored)
H. Did or said something to spite him/her
I. Threatened to hit or throw something at him/her
J. Threw or smashed or hit or kicked something

Physical Assault

Minor Assault (Corporal Punishment)
K. Threw something at him/her
L. Pushed, Grabbed, or shoved him/her
M. Slapped or Spanked him/her

Severe Assault (Physical Abuse)
N. Kicked, bit, or hit him/her with a fist
O. Hit or tried to hit him/her with something.
P. Beat him/her up
Q. Burned or scalded him/her.
R. Threatened him/her with a knife or gun.
S. Used a knife or fired a gun

### CTSPC

Non-violent Discipline

A. Explained why something was wrong
B. Put him/her in "time out" (or sent to his/her room)
Q. Took away privileges or grounded him/her
E. Gave him/her something else to do instead of what he/she was doing wrong

Psychological Aggression

N. Threatened to spank or hit him/her but did not actually do it
F. Shouted, yelled, or screamed at him/her
J. Swore or cursed at him/her
U. Called him/her dumb or lazy or some other name like that
L. Said you would send him/her away or kick him/her out of the house

Physical Assault

Minor Assault (Corporal Punishment)
H. Spanked him/her on the bottom with your bare hand
D. Hit him/her on the bottom with something like a belt, hairbrush, a stick or some other hard object
P. Slapped him/her on the hand, arm, or leg
R. Pinched him/her
C. Shook him/her (this is scored for Very Severe If the child is <2 years)

Severe Assault (Physical Abuse)
V. Slapped him/her on the face or head or ears
O. Hit him/her on some other part of the body besides the bottom with something like a belt, hairbrush, a stick or some other hard object
T. Threw or knocked him/her down
G. Hit him/her with a fist or kicked him/her hard

Very Severe Assault (Severe Physical Abuse)
K. Beat him/her up, that is you hit him/her over and over as hard as youcould
I. Grabbed him/her around the neck and choked him/her
M. Burned or scalded him/her on purpose
S. Threatened him/her with a knife or gun

Appendix 2

## PREVALENCE RATES AND CHRONICITY

Each CTS maltreatment scale can be expressed as a measure of the prevalence of maltreatment, or as a measure of the chronicity of maltreatment.

The prevalence version of a CTS scale identifies cases who reported one or more abusive acts. It can be used clinically to identify maltreatment cases, or can be used in research to measure the percent of a population who engaged in maltreatment.

The chronicity version of a CTS scale measures how often maltreatment occurred in an identified maltreatment case, or among a group of known abusers; for example, among cases confirmed by Child Protective Services.

### Why Separate Measures of Prevalence and Chronicity Are Needed

When the items in each CTS scale are summed the resulting measure is extremely skewed. Applying the Very Severe Assault subscale to the 1985 National Family Violence Survey data, for example, resulted in a distribution in which 97.7 of the cases have a score of zero. No transformation can normalize a distribution that skewed. Consequently, the sum of the items in the CTS physical assault scales can not be used with statistical techniques (such as ordinary least square regression) which assume at least an approximately normal distribution. Moreover, the problem becomes worse when one attempts to improve the sensitivity of the scale by weighing according to the severity of the assault because this extends the tail of the distribution even further. The chronicity version of the CTS maltreatment scale will be much closer to a normal distribution because it omits all cases with a score of zero.

### Prevalence

At the individual case level, the prevalence measure is a dichotomy which indicates whether one or more instance of a type of maltreatment occurred during the referent period. When the CTS is used in research, the dichotomized CTS scales are the basis for computing rates because the mean of 0-1 dichotomy is a proportion. One need only multiply this by 100 to obtain a percentage, or by 1,000 to obtain a rate per 1,000.

Period-Specific Prevalence Rates. The standard version of the CTS asks the respondent about events in the previous year. This results in an annual prevalence rate, such as the percent of a population who committed or suffered maltreatment per year. It has the advantage of being relatively easy for the general public to understand. Moreover, since annual prevalence rates are frequently used in epidemiology and criminology, expressing child maltreatment as a rate per thousand or a percentage (rate per hundred) permits comparisons with other related phenomena. For this reason most all the statistics in Straus, Gelles, and Steinmetz (1980) and Straus and Gelles (1990) are in the form of annual rates. However, the CTS can be administered with instructions to describe what happened in the previous month, six months, etc. or since the onset of treatment, since treatment was completed, etc.

Lifetime Prevalence Rate. The CTS obtains data on both the preceding 12 months, and also on whether each act had ever occurred. This data can be used to identify lifetime prevalence by coding children who were assaulted either during the referent year of the survey or at some previous time as 1, and all other children as zero. However, the rate estimated on the basis of this variable must be used with considerable caution because recall errors are almost certain to be large.

Chronicity

If the case or cases under study are those who committed a certain type of maltreatment, the sum of the CTS scale is automatically a measure of chronicity because there are no cases with a score of zero. The following procedure is for use when the sample is not made up of parents known to have mistreated a child.

Illustration of SPSS Commands to Compute Severe Assault Scales

WHERE:

SA = variable name for the Severe Assault Scale
SAP = variable name for Severe Assault Prevalence Scale
SAC = variable name for Severe Assault Chronicity Scale
ITEM1, ITEM 2, etc = variable names for the severe assault items in the scale
Note: The following example is for CTS1 items. For the CTSPC items, category 7 (not in last year but in some previous year) must first be recoded to zero.

```
COMPUTE SA = ITEM1+ ITEM2+ ITEM3 etc
VARIABLE LABELS SA 'SEVERE ASSAULT SCALE'.
COMPUTE SA = ITEM1 + ITEM2 + ITEM 3 etc.
COMPUTE SAP = SA.
VARIABLE LABELS SAP 'SEVERE ASSAULT - PREVALENCE'.
RECODE SAP (1 THROUGH HIGH = 1).

COMPUTE SAC = SA.
VARIABLE LABELS SAC 'SEVERE ASSAULT - PREVALENCE'.
RECODE SA (0 = SYSMIS).
```

Additional information on scoring the CTS is in the appendix to Straus and Gelles (1990) and in Straus, Hamby, Finkelhor, Moore, and Runyan, 1996.

## REFERENCES


Amato, P.R. (1991) Psychological distress and the recall of childhood family characteristics Journal of Marriage and the Family, 53, 1011-1019.

Arias, I., & Beach, S.R.H. (1987) Validity of self-reports of marital violence Journal of Family Violence, 2,(2):139-149.

Bavolek, S.J. (1984) Handbook for the adult-adolescent parenting inventory (AAPI) Schaumburg, IL: Family Development Associates, Inc.

Cantrell, P.J., Carrico, M.F., Franklin, J.N., & Grubb, H.J (1990) Violent tactics in family conflict relative to familial and economic factors Psychological Reports, 66, 823-828.

Dawes, R.M., Faust, D., & Meehl, P.E. (1989) Clinical versus actuarial judgment Science, 243, 1668-74.

Dembo, R., Williams, W., Berry, E., Wish, E.D., La Voie, L., Getreu, A., Schmeidler, J., & Washburn, M. (1989) Physical abuse, sexual victimization and illicit drug use: Replication of a structural analysis among a new sample of high risk youths Violence and Victims, 4, 121-138.

Downs, W.R., Miller, B.A., & Panek, D.D. (1993) Differential patterns of partner-to-woman violence: A comparison of samples of community, alcohol-abusing, and battered womenJournal of Family Violence, 8, 113-135.

Eblen, C.N. (1987) The influence of stress and social support upon child abuse Unpublished doctoral dissertation, Arizona State University, Tempe.

Fink, A., & McCloskey, L. (1990) Moving child abuse & neglect prevention programs forward: Improving program evaluations Child Abuse & Neglect, 14, 187-206.

Garbarino, J. (1986) Can we measure success in preventing child abuse? Issues in policy, programming & research Child Abuse & Neglect, 10, 143-156.

Gelles, R.J. (1978) Violence toward children in the United States American Journal of Orthopsychiatry, 48,(4), 580-592.

Gelles, R.J., & Edfeldt, A.W. (1986) Violence towards children in the United States & Sweden Child Abuse & Neglect, 10, 501-510.

Gelles, R.J., & Straus, M.A. (1979) Determinants of violence in the family: Toward a theoretical integration In W.R. Burr, R. Hill, F.I. Nye, & I.L. Reiss (Eds.), Contemporary theories about the family (pp549-581) New York: Free Press.

Gelles, R.J., & Straus, M.A. (1987) Is violence toward children increasing? A comparison of 1975 and 1985 national survey rates Journal of Interpersonal Violence, 2, 212-222.

Gelles, R.J & Straus, M.S. (1988) Intimate violence NY: Simon & Schuster.

Gelles, R.J. & Straus, M.S (1990). The medical and psychological costs of family violence. In M.A. Straus & R.J. Gelles (pp. 151-165) Physical Violence in American Families: risk factors and adaptatons to violence in 8,145 families. New Brunswick, NJ: Transaction Publishers.

Giles-Sims, J. (1985) A longitudinal study of battered children of battered wives Family Relations, 34, 205-210.

Giovannoni, J.M. & Becerra, R. M. (1979) Defining child abuseNew York: Free Press.

Hampton, R.L., Gelles, R.J., & Harrop, J.W. (1989) Is violence in Black families increasing? A comparison of 1975 and 1985 National Survey rates Journal of Marriage and the Family, 51, 969-980.

Holtzworth-Munroe, A., & Stuart, G.L. (1994) Typologies of male batterers: Three subtypes and the differences among them. Psychological Bulletin, 116, 476-497.

Hotaling, G.T. & Sugarman, D.B. (1986) An analysis of risk markers in husband to wife violence: The current state of knowledge. Violence & Victims, 1(2), 101-124.

Hotaling, G.T., Straus, M.A. & Lincoln, A.J. (1989) Intrafamily violence, and crime and violence outside the family In LOhlin & MTonry Family violence pp 315-375 University of Chicago Press.

Jouriles, E.N., & Norwood, W.D. (1995) Physical aggression toward boys and girls in families characterized by the battering of women Journal of Family Psychology, 9, 69-78.

Kaufman Kantor, G., Jasinski, J.L., & Aldarondo, E. (1994) Socioeconomic status and incidence of marital violence in Hispanic families Violence & Victims, 9,(3), 207-222.
Kempe, C.H., Silverman, F.N., Steele, B.F., Droegemueller, W., & Silver, H.K. (1962) The battered child syndrome Journal of the American Medical Association, 181, 17-24.
Knudsen, D.D. (1988) Child protective services: Discretion, decisions and dilemmas Springfield, IL: Charles CThomas.
Kolko, D.J., Kazdin, A.E., Thomas, A.M., & Day, B. (1993) Heightened child physical abuse potential Journal of Interpersonal Violence, 8, 169-192
Korbin, J.E. (1987) Child abuse and neglect: The cultural context In R.E. Helfer & R.S. Kempe (Eds.), The battered child (pp.23-41) Chicago: University of Chicago Press.
Kruttschnitt, C., & Dornfeld, M. (1992) Will they tell? Assessing preadolescents reports of family violence Journal of Research in Crime and Delinquency, 29, 136-147
Light, R.J. (1973) Abused and neglected children in America: A study of alternative policies Harvard Educational Review, 43, 556-98.
Marcus, P. (1983) Assault & battery In S.H. Kadish (Ed.), Encyclopedia of Crime & Justice (pp. 88-90) NY: Free Press.
McCloskey, L., & Figueredo, A.J. (1995) Socioeconomic and coercive power within the family: Correlates of wife and child abuse. University of Arizona: Unpublished manuscript.
Meredith, W.H., Abbott, D.A., & Adams, S.L. (1986) Family violence: Its relation to marital and parental satisfaction and family strengths Journal of Family Violence, 1, 299-305.
Milner, J.S. (1986) The child abuse potential inventory: Manual(2nd ed.) Webster, NC: Psytec Corporation.
Morash, M. (1987) Wife battering Criminal Justice Abstracts, 18, 252-271
National Center on Child Abuse and Neglect (NCCAN) (1981) Study findings: National study of incidence and severity of child abuse and neglect Washington, DC: Department of Health, Education, and Welfare
National Center on Child Abuse and Neglect. (1996) Child Maltreatment 1994: Reports from the states to the National center on child abuse and neglect. U.S. Government Printing office.
National Committee for Prevention of Child Abuse (1985) Long range plan: 1985-1990, Executive Summary Chicago: National Committee For Prevention of Child Abuse
Newberger, C., & White, K.M. (1987, April) Parental awareness and conflict tactics in relation to individual and environmental variables Paper presented at the biennial meeting of the Society for Research in Child Development, Baltimore, Maryland.
NH vs. Johnson, No. 90-533 (New Hampshire Supreme Court, June 25, 1992).
O'Keefe, M. (1994) Linking marital violence, mother-child/father-child aggression, and child behavior problems Journal of Family Violence, 9, 63-78
Pless, I.B., Sibald, A.D., Smith, M.A., & Russell, M.D (1987) A reappraisal of the frequency of child abuse seen in pediatric emergency rooms Child Abuse and Neglect, 193-200.
Radbill, S.X. (1987) Children in a World of Violence: A History of Child Abuse In R.E. Helfer & R.S. Kempe (Eds.), The Battered Child (4th ed.) Chicago: University of Chicago Press.
Richters, J.E., & Martinez, P. (1993) The NIMH Community Violence Project: I Children as victims of and witnesses to violence Psychiatry, 56, 7-21
Rollins, B.C., & Ohenaba-Sakyi, Y. (1990) Physical violence in Utah households Journal of Family Violence, 5, 301-309.
Saunders, D.G. (1986) When battered women use violence: Husband-abuse or self-defense? Violence and Victims 1, 47-60
Saunders, D.G & Hanusa, D. (1986) Cognitive-behavioral treatment of men who batter: The short-term effects of group therapy Journal of Family Violence, 1, 357-372
Schneider, C., Helfer, R.E., & Hoffmeister, J.K. (1980) Screening for the potential to abuse: A review In C.H. Kempe & R.E. Helfer (Eds.), The Battered Child (3rd Ed., pp420-30) Chicago: University of Chicago Press
Sedlak, A.J. & Broadhurst, D.D. (1996) The Third National incidence study of child abuse and neglect (NIS-3). Washington, D. C.:U.S. Department of Health and Human Services, National Center on Child Abuse and Neglect.

Stets, J.E., and Straus, M.A. (1990) Gender differences in reporting marital violence and its medical and psychological consequences In M.A. Straus & R.J. Gelles (Eds.) (pp. 151-165) Physical Violence in American Families: risk factors and adaptatons to violence in 8,145 families New Brunswick, NJ: Transaction Publishers.

Straus, M.A. (1964) Measuring families In H.T. Christenson (Ed.), Handbook of Marriage and the Family (pp. 335-400) Chicago: Rand McNally.

Straus, M.A. (1973) A general systems theory approach to a theory of violence between family members Social Science Information, 12, 105-125

Straus, M.A. (1979a) Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales Journal of Marriage and the Family, 41, 75-88

Straus, M.A. (1979b) Family patterns and child abuse in a nationally representative American sample Child Abuse and Neglect 3, 213-225

Straus, M.A. (1990a) Corporal punishement, child abuse and wife beating: What do they have in common? In M.A. Straus & R.J. Gelles 1990 Physical violence in American families: Risk factors and adaptations to violence in 8,145 families New Brunswick, N.J.: Transaction.

Straus, M.A. (1990b) The Conflict Tactics Scales and its critics: An evaluation and new data on validity and reliability In M.A. Straus & R.J. Gelles (Eds.) (pp. 49-73) Physical violence in American families: Risk factors and adaptations to violence in 8,145 families New Brunswick, N.J.: Transaction.

Straus, M.A. (1994) Beating the devil out of them: Corporal punishment by parents San Francisco: Jossey-Bass/Lexington.

Straus, M.A. (1996) Manual for the Conflict Tactics Scale Durham, NH: University of New Hampshire, Family Research Laboratory

Straus, M.A., & Gelles, R.J. (1986) Societal change and change in family violence from 1975 to 1985 as revealed by two national surveys Journal of Marriage and the Family 48, 465-479.

Straus, M.A., & Gelles, R.J. (1988) How violent are American families? Estimates from the National Family Violence Resurvey and other studies In Straus & Gelles (pp 95-112) Physical Violence in American Families: risk factors and adaptatons to violence in 8,145 families New Brunswick, NJ: Transaction Publishers.

Straus, M.A., & Kaufman Kantor, G. (1987) Stress and child abuse In REHelfer & R.S. Kempe (Eds.), The Battered Child (pp. 75-88) Chicago: University of Chicago Press.

Straus, M.A. & Kaufman Kantor, G. (1995, November) Trends in Physical abuse by parents from 1975 to 1992: A comparison of three National surveys. Paper presented at the annual meeting of the American society of Criminology, Boston, MA.

Straus, M.A., Gelles, R.J., & Steinmetz, S.K. (1980) Behind closed doors: Violence in the American family. NY: Doubleday/Anchor.

Straus, M.A., & Gelles, R.J. (Eds.) (1990) Physical violence in American families: Risk factors and adaptations to violence in 8,145 families New Brunswick, N.J.: Transaction.

Straus, M. A., Hamby S. L., Boney-McCoy, S., & Sugarman, D.B. (1996) The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data Journal of Family Issues, 17,(3), 283-316.

Straus, M.A., Hamby, S.L., Finkelhor, D., Moore, D., & Runyan, D. (1996) Identification of child maltreatment with CTSPC: Development and psychometric data for a national sample of American parents. Durham, NH: University of New Hampshire, Family Research Laboratory.

Sugarman, D.B. & Hotaling, G.T. (In Press) Intimate violence and social desirability: A meta-analytic review Journal of Interpersonal Violence.

U.S. Department of Justice. (1985) Crime in the United States. Washington, DC: U.S. Government Printing Office.

Vissing, Y.M., Straus, M.A., Gelles, R.J., & Harrop, J.W. (1991) Verbal aggression by parents & psycho-social problems of children. Child Abuse & Neglect, 15, 223-238.

Wauchope, B. & Straus, M.A. (1990) Physical punishment and physical abuse of American children: Incidence rates by age, gender, and occupational class In M.A. Straus & R.J. Gelles.

(Eds.) (pp. 133-150) Physical violence in American families: Risk factors and adaptations to violence in 8,145 families New Brunswick, N.J.: Transaction.
Zdep, S.M. & Rhodes, I.N. (1976) Making the randomized response technique work Public Opinion Quarterly, 40, 531-537.